

Video Tutorial Development as Independent Learning Media in Materials Designing Teaching Based on Multimedia Presentation in IAKN Tarutung

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Abstract—This study aims to develop video tutorials as a medium for independent learning on the material "Designing Multimedia-Based Learning Materials Presentations in IAKN Tarutung. Respondents in this study were sixth grade students of Christian Religious Education study program. This research was conducted in February until November 2017. The research method applied a mixed method, which is a combination of quantitative and qualitative approaches. The step of product development applied by adapting the ADDIE development model modified with R & D procedures according to Borg & Gall. Data collection was carried out by interviews, questionnaires and learning outcomes tests. After the initial prototype was developed further validation was carried out which included expert evaluation, one to one evaluation, small group evaluation and field testing or evaluation of large groups, the purpose which to refine existing deficiencies so that the product was feasible to use. Based on the results of the validation, it is known that the percentage of product feasibility based on expert design evaluations is 87% very feasible, 88% of material experts are very feasible and media experts 82% are quite feasible but still need revision. And based on one to one evaluation, 90% is very feasible, small group evaluations of 90% are very feasible and still need revision, while the results of evaluation of field test of product feasibility is 91% very feasible without need for revisions. Furthermore, based on the learning outcomes test the respondents in the field test, the average test results obtained is $80.57 > 75$ (Value B), which is the Standart minimum criterion, it means that the video tutorial products developed are effective

Keywords— **D**evelopment, **v**ideo **t**utorials, **i**ndependent **l**earning **m**edia, **m**aterial **d**esigning **m**ultimedia **b**ased **t**eaching **m**aterial **p**resentations.

I. INTRODUCTION

Based on development of science and technology, society changes, understanding of ways learning and the advancement of communication and information media have given meaning to educational activities. This challenge is one of importance foundations technology and media approaches in management of education and learning. The importance of the technology and media approach in managing education (learning) is to help the learning process in achieving the goals to be achieved. Therefore to create an effective learning process one of the efforts that can be done is a technological approach (Munadi, 2013, p.1). Technology and media approaches can be implemented in the form of audio technology based on media use, visual technology or audiovisual technology in the learning process. However, in the learning process both inside and outside the classroom, the use of technology based on media has not been widely used. The learning process still seems conventional. One of the contributing factors is the lack of ability to create (develop) the media.

In relation to importance of technology based on media, in order to prepare reliable and professional Christian Education teacher candidates who have pedagogical competence, Institut Agama Kristen Negeri, (*State Institute of Christianity*) (IAKN) has required the sixth semester students of the Christian Religious Education Study Program (PAK). attend learning Process in Technology and Learning Media. The course has 2 credits and integrated to the S1 curriculum of PAK, the aim is students have competence in developing and utilizing technology based on learning media in PAK learning process. One of the material studied in this course is Technology and Learning Media PAK is designing based teaching multimedia material presentations. The aim is the sixth semester students of the PAK Study Program can design or develop their own teaching materials to be taught, especially multimedia-based teaching material presentations.

But the phenomenon that occurs from the observations of researcher, the learning process of Technology and Learning course Media, especially study in "Designing Multimedia-Based Learning Materials Presentations", many students complained that they could not take the maximum learning process, Because the allocation only 100 minutes is still very lacking, and the variety of laptop devices types that students have, so it requires additional time to provide a different explanation. As a result, some of students have difficulty continuing the next stages, because a step stage or procedure that continues hierarchically. So, if one step is poorly understood, then it will interfere with mastery to proceed to the next stage.

Starting from the results analysis that have been done, the researcher are interested to develop instructional products in the form of video tutorials material based on designing multimedia in teaching material presentations. This tutorial video is specifically designed to help students have ability study independently outside the classroom or outside lecture hours without lecturer explanations. So it is expected that the instructional products developed, the problem of time constraints in lectures in the classroom can be overcome so that students are understand to repeat them independently outside the classroom.

II. REVIEW OF LITERATURE

Instructional development (instructional design) is a systematic process that includes the stages of identifying problems, developing instructional strategies and materials, and evaluating their effectiveness and efficiency in achieving instructional goals (Suparman, 2012, p.91). Smith dan Ragan (2005:10) Stated: "*Instructional design models may be defined as visualized depictions of instructional design process, emphasizing main elements and their relationships*" So the instructional development model is an illustration of the instructional design process that is visualized, and emphasizes the main components and their relationship with one another. In an instructional development process model includes three main activities, namely the analysis phase, the development of strategies and evaluation stages.

There are several known instructional development models that are commonly used, among them, namely : *Courseware Development Process* (CDP) Model (Soekamto, 1993,p.60-62), ADDIE Model (Branch, 2009,p.3-61), and *Instructibal Development Institute* Model (IDI) ((Soekamto, 1993,p.52) The development of the tutorial video in this study uses the five steps of the ADDIE Model namely analysis, design, develop, implement and evaluate. The strength of the ADDIE model is to offer a series of critical questions to ensure the identification of instructional goals and the needs of students

at each stage of the design process (Koohang & Harman, 2007, p.361), While the weakness of this model is the limited time and resources in its implementation (Fenrich, 2014, p. 52).

III. RESEARCH METHODOLOGY

The collected data analyzed through development research is the mixed method. Abbas Tashakkori and Charles Teddlie stated that "*Mixed methods or Mixed Methodology which contain elements of the quantitative and qualitative approaches*" (Tashakkori dan Teddlie, 1998,p.5). Both of these approaches are embedded, to analyze and interpret data about the quality of instructional products developed through information, responses, and suggestions for improvement from design experts, material experts and media experts through questionnaire instruments.

Research and development (R & D) is research that is used to develop a product or procedure and then conduct field testing and evaluation of the product to obtain effective results (Borg & Gall, 2007, p.589). This study aims to develop a new product that is effectively used especially in the Technology and Learning Media Courses, after first going through the process of validation and testing in the field.

In developing this video tutorial product, the writer adapted the ADDIE Instructional development model modified by Borg & Gall's research procedure until the fifth step. Then the steps taken in product development for this video tutorial include: (1) analysis, (2) *design*, (3) develop the initial prototype, (4) *implement / limited initial testing*, (5) evaluation: expert evaluation, one by one evaluation, small group and large group evaluation (6) make product revisions and (7) the final product.

The types of data in this study namely qualitative data and quantitative data. In a research, Interview is a tool for collecting data (Boudah,2011,p.127), questionnaire and test of learning outcomes (Johnson and Christensen, 2014, p.227). The product effectiveness developed criteria were carried out by consulting the value of students towards the complete standard minimum criteria, namely B (Score 75). The to be effective if the average value of student learning outcomes is ≥ 75 (Category B).

IV. RESULT AND DISCUSSION

1. Analysis

- The Results of Gap Performance and Needs Analysis

Based on the results of observations and interviews conducted by researcher in the sixth grade students of PAK Study Program when teaching Technology

and Learning Media PAK courses, there were gaps (problems) by some students who had difficulty mastering learning process. Because the allocation of 100 minutes the course has 2 credits is very lacking, moreover there are about 35 students in each group who attend this learning process, so that the time available is very less

- b. The Results of Determine Instructional Objectives
The purpose of this course that the sixth semester students of the Christian Education Study Program have the competence to develop teaching materials that will be taught to students, especially multimedia-based teaching material presentations.
- c. The Results of Students Analysis
Based on the analysis from 50 students found 42 students (84%) stated that it was difficult to master the learning process "PAK Learning Technology and Media" only by relying on books printed and lecturers' explanations in the classroom, while 8

students (16%) states that they can master lecture material without finding difficulties.

- d. The Results of Analysis Resources Needed
The majority of students who take the "Technology and Learning PAK by video tutorial" have their own laptops so it is very possible that the video tutorial products developed can be used to the fullest. In addition, students already have basic knowledge (initial abilities) to operate of computers

2. Design

- a. Task Inventory

Some task need to be done for students to have maximum mastery of this material, which are: determining the material to be developed, outlining the material, images inventorying, videos and films to explain the material and designing slide templates to be made.

- b. The Results of Formulate Instructional Objectives

Table 1: Instructional Objectives

Subject	PAK Technology and Learning Media
Objective	Sixth semester students of PAK Department
General Instructional Objectives	At the end of learning students are expected to have competence in developing technology-based learning media in learning process of Christian Education.
Special Instructional Objectives	Given the tutorial video self-learning media, students are expected to be able to design teaching materials that will be taught to students, especially multimedia-based teaching material presentations.

- c. The Results of Test Development

To measure student mastery of lecture material

"Designing Multimedia-Based Learning Materials

"Presentations" can be done with performance test instruments as shown in Table below

Table 2: The Grid Performance of Instruments

Number	Rated aspect	Score				Total
		4	3	2	1	
1.	Accuracy material determines					
2.	Accuracy of color arrangement, images, text, movies or video and audio					
3.	Accuracy in carrying out procedures					
4.	Punctuality					
5.	Suitability of results					
Total Score						

3. The Product of Development Results

The results in this study were a prototype video tutorial "Designing Multimedia-Based Teaching Materials Presentations", with the subject matter of the lesson "God Guide to the Life of My Family"

with the literary source of Genesis 2:24; 1 Corinthians 11:23 and John 2: 1-11 as shown in Figure 1 below:

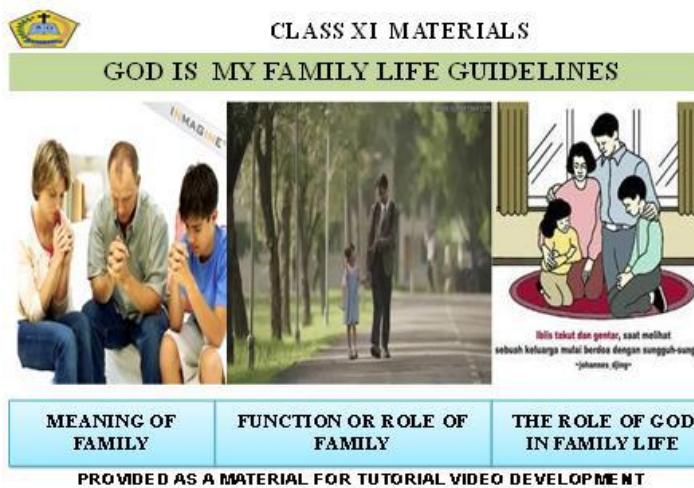


Fig.1: Tutorial video view

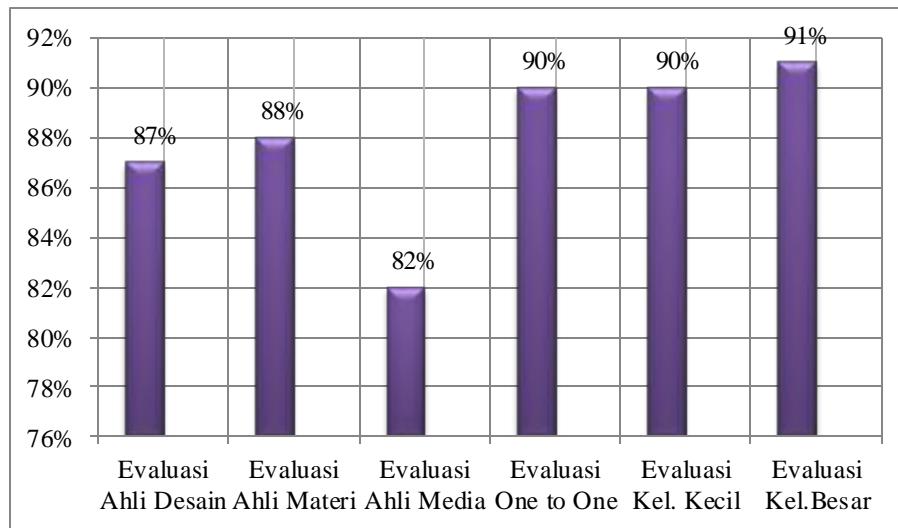


Fig.2: Results of Formative Evaluation of Video Tutorial

b. Based on the results of test the respondents of the big group research (field test) about 35 students are designing multimedia teaching materials presentations, the average test results obtained were 80.57 B value categories. based on the results of formative evaluations conducted on video tutorial products developed through validation of design experts, material experts, media experts, one to one test, small group test and field test (large group test), indicating that instructional products developed are feasible to use . based on the results of the average final score of student test results in a large group evaluation or field test with a standard set of minimum completeness criteria (KKM) of 75 (Value B). The acquisition of the average value of the results of the big group test

is 80.57 which is greater than the standard value of completeness set 75. So based on the results of the consultation value it can be interpreted that the product of the video tutorial developed was effective.

V. CONCLUSION

The process of video tutorial products is carried out in several stages based on the design stages of the ADDIE Model which include: analysis, design, develop, implement and evaluate which are coupled with the research steps of Borg & Gall. The product feasibility test developed is carried out through several stages, namely expert evaluation, one to one evaluation, small group evaluation and big group evaluation or field test.

Based on the results on product feasibility, it can be concluded that the design evaluation results 87% that

categories are very feasible but revisions still need to be related cover style and clarity of the narrator's voice., image quality and narrative delivery are still too fast. Similarly, the evaluation results of media experts 82% that categories are quite feasible and need revision of image quality and accompanying music volume. Furthermore, the results of one-to-one evaluation 90% that category are very feasible to use, but need to revise the duration of running text, the results of small group evaluations 90% that categories are very feasible but revisions the duration of running text need to be shortened again. Then the results of a big group evaluation 91% field test category are very feasible to use and without any revisions.

Furthermore, the effectiveness of the video tutorial products is determined by looking at the acquisition of the average score of the overall test results by respondents and consulting with the standard minimum completeness criteria set (KKM) of 75. The acquisition of the average score of the big group test results is 80.57 which is more the value of the completeness standard is 75. So based on the results of the consultation the value can be interpreted that the product of the video tutorial developed is effective.

The results of this study are expected to contribute to improve student learning outcomes, especially students of the sixth grade PAK Study Program who take Technology Courses and PAK Learning Media in terms of mastery of "Designing Learning Materials Based on Multimedia Presentations. In addition, it is also expected to contribute solving learning problems students who have difficulty understanding classical lecture material in the classroom and contributing to develop of specially designed learning resources (learning resources by design), specifically to facilitate independent learning activities.

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